

SAVING HOOSIER FORESTS

Challenge

The Forestry division of the Indiana Department of Natural Resources strives to maintain healthy woodlands on both public and private lands. Battling invasive, sometimes virulent pests is a large part of that responsibility.

In 2002, the Emerald Ash Borer was identified in Michigan, then in Ohio in 2003 and Indiana in 2004. The larvae of this Asian beetle have devastated the ash population, already killing more than 8 million trees. Strategies to combat it include quarantining townships and counties in the three states, removing all ash trees within a half-mile of an infested tree, and creating "ash-free zones."

Action

Using their GIS, the Forestry Division is able to act quickly and decisively to counter the Ash Borer. Forestry staff surveys wooded areas, examining trees and looking for D-shaped holes - the calling card of the Ash Borer. If they find an infested tree, they relay the GPS coordinates back to the office, where GIS staff "lights it up." The coordinates are plugged into the GIS - which includes digital aerial photography of the state - and a half-mile buffer zone is drawn around each infested tree. Staff use the photography to mark every ash tree in the buffer zone, then plan and organize removal and destruction.

Forestry also maintains parcel information. So not only can they find the ash trees that need to be cut and burned, they can identify and contact any property owners that will be affected. GIS then becomes a tool for explaining how important the eradication effort is. Maps showing nearby at-risk forests clearly illustrate why it is necessary to kill the trees in the buffer zone.

Results

Using the GIS improves the chances of eradicating and preventing further spread of the Emerald Ash Borer by:

- Reducing the time spent analyzing problem areas, planning a response, and enacting those plans
- Improving the quality of analysis with more accurate information
- Providing an effective tool to keep employees and supervisors informed of the project status
- Improving communication and relations with the public
- Allowing foresters, entomologists, other DNR staff and project managers statewide to work together on management plans and make decisions without leaving their offices



Managing Emerald Ash Borers with GIS. The colored dots on the map represent the location of EAB infested ash trees. The white lines are the boundary of the half-mile eradication area. Inside the eradication area every ash tree is cut down and burned.